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IN - DEMIDOV B A; IVKIN M V

MC - S03-E06 X14-G

PA - (BATS-I) BATSANOV S S

PN - SU1215597 A 19860930 DW198719 004pp

PR - SU19843712656 19840320

XIC - H05H-005/00

XP - N1987-100089

AB - SU1215597 The device comprises a voltage-pulse generator (1) connected to a shaping line (2) with a HV vacuum diode (3), containing a cathode unit (4) and an anode unit (5), connected to the shaping line. The anode unit contains an air-tight chamber (6) whose end wall (7) is the anode. A plate (8) lies beyond the end wall with an inertia plug (9) and a container (10) for collecting the substance under investigation lying beyond the plate.

- The shaping line is charged by the generator and forms a HV-pulse with a small width which is fed to the HV diode. The voltage pulse generates an electrical-field strength between the cathode and anode units in the accelerator so that an electron beam is emitted from the cathode and strikes the anode (7) extracting the energy stored in it. The end wall (7) is then subject to a thermal shock generating a pressure wave which passes through the plate (8) which holds back the fast electrons, compresses the substance under investigation and strikes the inertia plug. Part of the shock wave is reflected off the plug and the substance is subject to a repeated pressure pulse while the other part reaches the end of the plug after which a rarefaction wave begins to propagate on the reverse side. The plug and the substance fall into the container (10).

- USE/ADVANTAGE - The technological scope of the device is broadened because a wider range of substances can be investigated and the pressure is acting on the substance for a longer time. Bul. 36/30.9.86 (4pp Dwg.No.1/2)

IW - DEVICE INVESTIGATE SUBSTANCE RELATIVISTIC ELECTRON BEAM TWO PART AIR TIGHT CHAMBER ANODE UNIT HV VACUUM DIODE HOLLOW PART SAMPLE

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INW - DEMIDOV B A; IVKIN M V

NC - 001

OPD - 1984-03-20

ORD - 1986-09-30

PAW - (BATS-I) BATSANOV S S

TI - Device for investigating substances using relativistic electron beam - has two part air-tight chamber as anode unit in HV vacuum diode hollow part of which includes sample